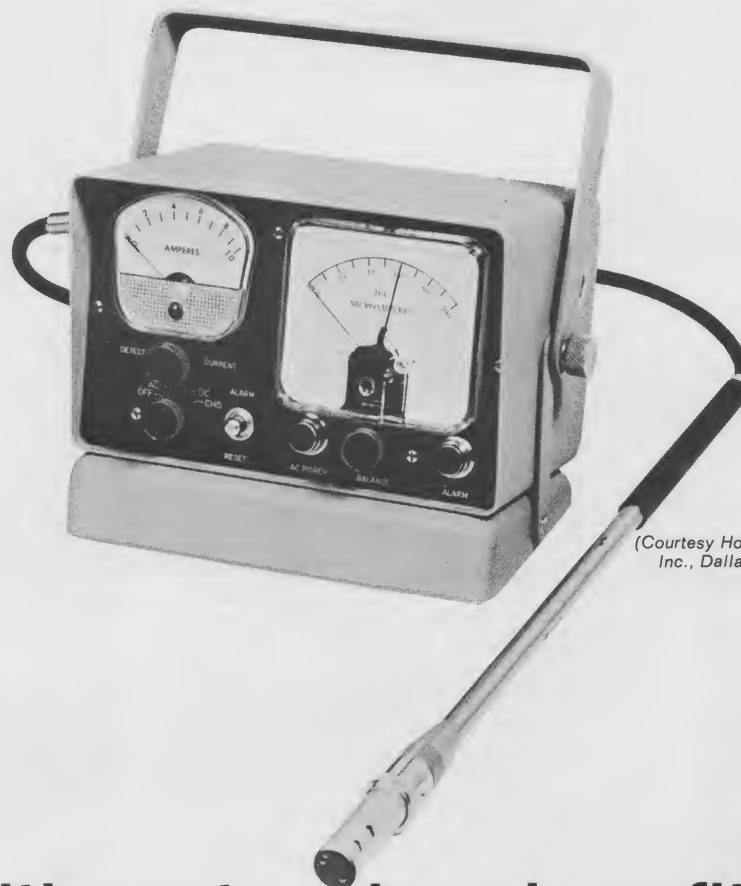




How to modify Zero Deep Drawn Aluminum Stock Boxes & Covers into distinctive customized housings



(Courtesy Houston-Atlas,
Inc., Dallas, Texas)

...with cost savings benefits!

DEAR CUSTOMER!

Zero now offers you more than 25,000 sizes and shapes in deep drawn aluminum boxes and covers: rectangular, square and round. This broad range of off-the-shelf containers affords you the flexibility and versatility of selecting just the right housing for your instrumentation needs. With our unique secondary services and hundreds of variations, we provide you with the latitude of putting together a distinctive, attractive instrument housing at low cost. Much of Zero's standard tooling may accomplish your desired modification. Why not consult with us — it may save you time and money.

here are some details —

THE BOXES Rectangular, square and round — deep drawn by an exclusive Zero process, they're seamless and draft-free. Literally thousands of length-width-height sizes from $\frac{7}{8}$ " x $1\frac{5}{8}$ " to 28" x $54\frac{3}{16}$ " with height increments of $\frac{1}{16}$ ". Zero deep drawn boxes are produced at two modern plants — Zero-West, Burbank, Calif., and Zero-East, Monson, Mass.

THE COVERS Four variations of deep drawn aluminum mating covers for boxes are available. Inside fitting; outside-fitting (loose or tight); outside-fitting with clearance for gasketing; and flush-fitting option. All are available **from stock**, in any quantity and **no tooling charge**. (See Zero Catalog "B" for full details on stock sizes and dimensions.)

MATERIALS Though Zero is extensively engaged in and geared to deep draw aluminum in 1100-0, 3003-0 and 6061-0 many sizes of boxes and covers are offered also in magnesium and other metals. **Magnesium-Lithium:** Zero is a prime supplier of boxes made of LA141A alloy, in aerospace applications for housing electronic components. Where good rigidity to weight ratio is a factor — Zero can fill your needs.

SECONDARY OPERATION Zero is equipped to perform all necessary secondary operations to modify a stock box, thus eliminating the need for farming out these critical operations. This one source concept of service provides panel drilling, punching and louvers; silk screening of panels; gasketing, handles, hinges and latches; riveting, routing and finishing. This service effects even greater savings.

SHORT-RUN DEPARTMENT Concentrating on prototypes, short runs or pilot runs, this specialized facility assures you fast, economical service on small orders for special modifications, fabrication and custom assemblies. We can work from rough sketches, blueprints or verbal descriptions. You receive small company service with big company quality.



PRODUCTION-TOOLING EQUIPMENT

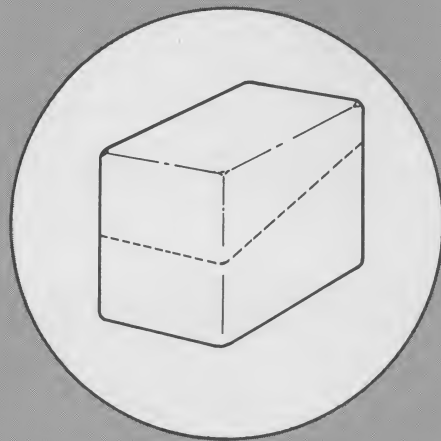
All work from rough metal to the finished product is produced by Zero, utilizing the most up-to-date, specialized equipment available. Our hydro presses have capacities ranging to 400 tons and handling blank stock sizes up to 60" x 60". A wide range of smaller presses handle a variety of other deep drawn requirements.

Zero's toolrooms in both West Coast and East Coast facilities feature the most modern equipment and highly skilled tool and die makers.

YOU CAN MODIFY ZERO STOCK BOXES BY

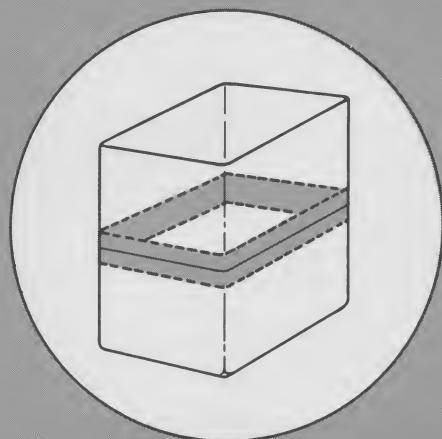
FLANGING

Exterior flange or panel flange is added to a stock box, either by spot welding or riveting. Available as solid flange or drilled to accept screws.



TRIMMING

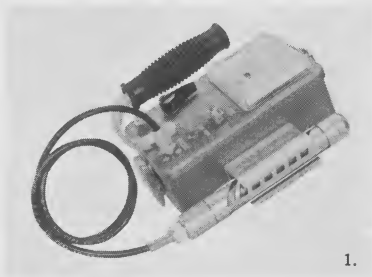
Several boxes are trimmed to form a base and body. Boxes are then spliced together to make a customized instrument container.



GRAFTING

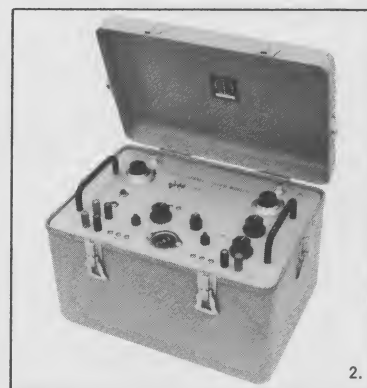
A basic box or cover is cut-out and another shaped box, either square, rectangular or round is welded to main body. Ideal method to create a single, multi-container configuration to house instrumentation. An excellent way to produce prototypes and short runs prior to production tooling for a one-piece draw.

TYPICAL EXAMPLES OF ZERO STOCK BOXES MODIFIED TO CUSTOMER REQUIREMENTS

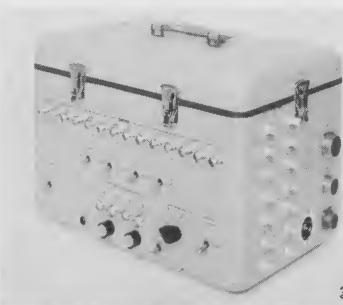


1. **SURVEY METER** Off-the-shelf deep drawn aluminum box and cover. Top was routed to provide installation of flush mounted dial, switch and terminals. Handle and bracket added for portability. (Courtesy Wm. B. Johnson Associates, Inc., Mt. Lakes, N.J.)

2. **DUAL CHANNEL STREAM MONITOR** A standard Zero aluminum case which was hinged, gasketed and latches attached. Panel pierced for controls and handles added. Case usable for lab or field use. (Courtesy Automation Industries, Inc., Boulder, Colo.)

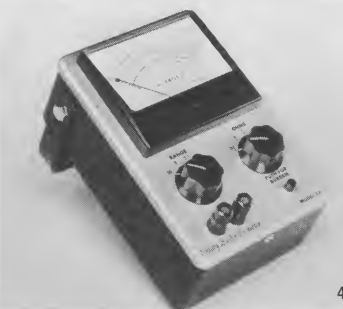


3. **DIGITAL DATA HANDLING SYSTEM CASE** Modified by drilling case for multi control knobs and connectors. Gasketing, latches and handle added to give a truly customized appearance. Silk screened and finished to customer specifications. (Courtesy Epsco-West.)

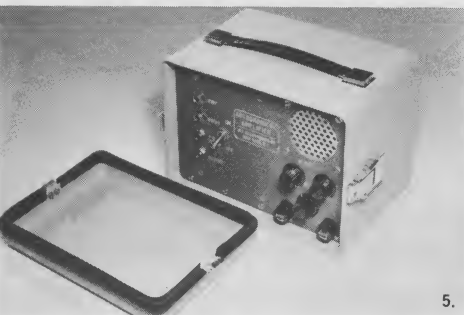


4. **UTILITY BURDEN AMMETER** A standard aluminum box and flush fitting cover. Case was drilled to accommodate meter and knobs; swivel handle added for carrying case and for tilting instrument during use. (Courtesy Burmeister Electric Co., Minneapolis, Minn.)

5. **ASTRONOMICAL AMPLIFIER** Aluminum deep drawn stock case with built-in instrument panel. Cover was gasketed to provide environmental protection. Latches and carrying strap added. Panel drilled and pierced for controls. (Courtesy MF Electronics, New York, N.Y.)



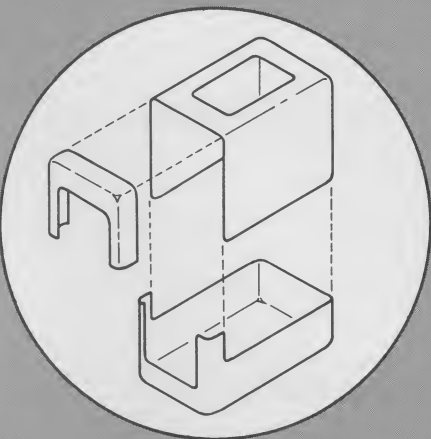
6. **ELECTRONIC MULTIMETER** An economical stock box was beveled and attractively finished per customers specifications. Stock box influenced industrial designer in redesigning package. Aluminum feet added for appearance and stability. (Courtesy Rheem Mfg. Co.)



YOU TOO CAN AFFORD THE LUXURY OF A CUSTOMIZED INSTRUMENT PACKAGE AND THE ECONOMY OF AN OFF-THE-SHELF CONTAINER

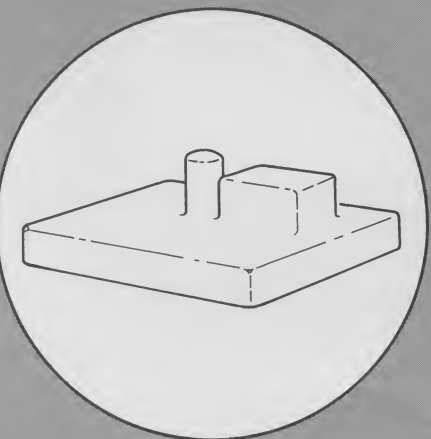
ANGULAR TRIMMING

A box is cut on an angle to give the housing a modern, customized appearance. Close fitting halves make for a unique housing and cover.



INCREASE HEIGHT

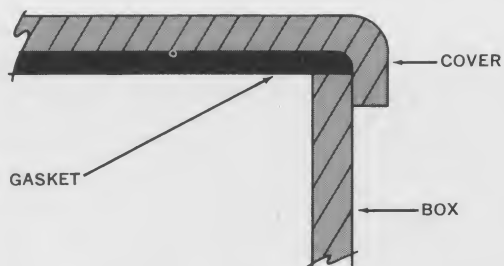
A section of box of the same width and length is spliced with an internal splice band to provide a box deeper than the catalog maximum.



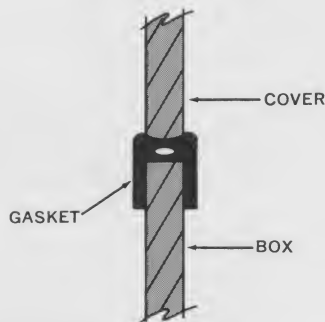
MATING ZERO BOXES TO COVERS

GASKET INSTALLATION:

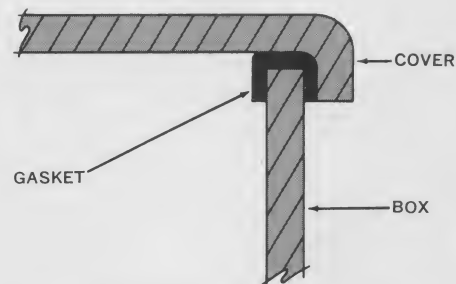
OUTSIDE-FITTING COVER



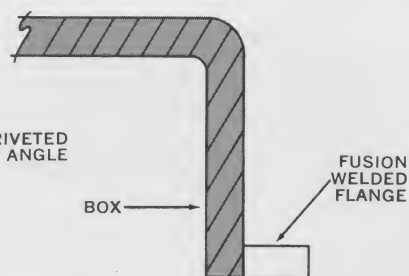
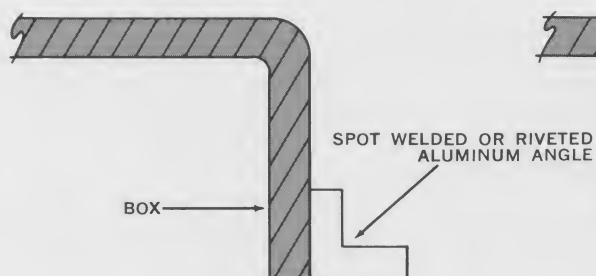
FLUSH COVER



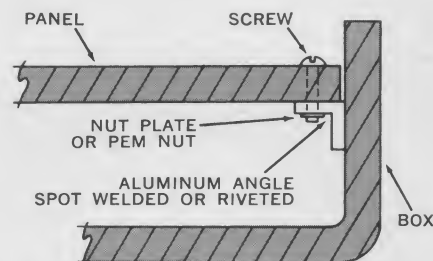
GASKET FITTING COVER



MOUNTING BOX OR COVER TO FLAT SURFACE (front or back)

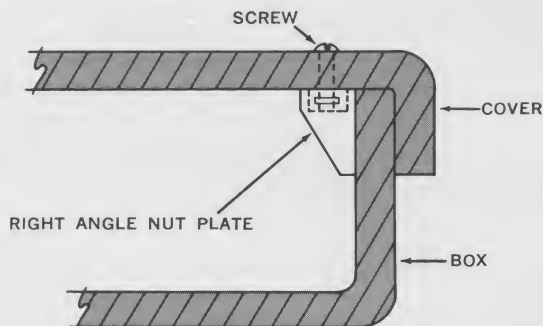


RECESSED PANEL MOUNTING

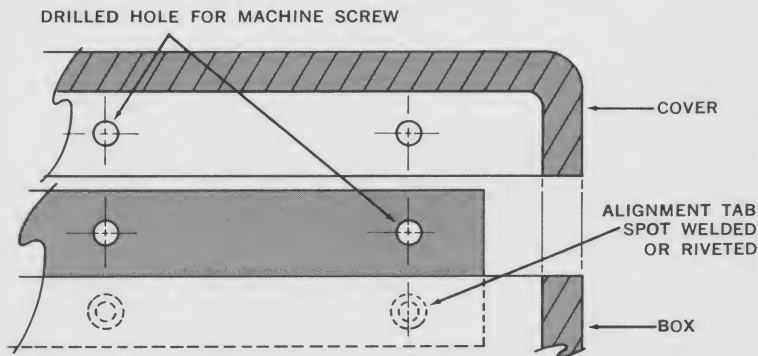


(IF SPACE DOES NOT PERMIT, ANGLE MAY BE OMITTED. RIGHT ANGLE NUT PLATE TAKES OVER)

MOUNTING OUTSIDE FITTING COVER



MOUNTING FLUSH COVER



ZERO OFFERS ONE SOURCE / TOTAL CAPABILITY SERVICES FROM THE WEST COAST AND EAST COAST

For quotations and/or special design assistance, contact your local Zero Engineering Representative, or write direct to the nearest factory.

Zero Manufacturing Co.

ZERO-WEST

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